

U.S. Patent Application No. 10/770,895
Amendment dated April 24, 2006
Reply to Office Action of November 22, 2005

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

IN THE CLAIMS:

Claims 1-27 (Cancelled)

Claim 28 (Currently amended): A niobium powder having a carbon content of from about 40 ppm to about 200 ppm and a iron, nickel, and chromium content of from about 5 ppm to about 200 ppm, wherein said niobium powder has a flow of greater than 80 mg/s; and

wherein said niobium powder is agglomerated and has a Scott density of less than about 35 g/in³; or

wherein said niobium powder is unagglomerated and has a Scott density of less than about 12 g/in³.

Claim 29 (Original): The niobium powder of claim 28, wherein said carbon amount is from about 50 to about 150 ppm.

Claim 30 (Currently amended): A niobium powder having a carbon amount of from about 40 to about 200 ppm when the BET surface area is about 1.0 m²/g and a carbon amount of less than 250 ppm when the BET surface area of the niobium powder is from about 2 to about 4.5 m²/g and the combined amount of Fe/Ni/Cr is less than 100 ppm when the BET surface area of the niobium powder is about 1.0 m²/g and less than about 400 ppm when the BET surface area of the niobium powder is from about 2.0 m²/g to about 4.5 m²/g;

wherein said niobium powder is agglomerated and has a Scott density of less than about 35 g/in³; or

wherein said niobium powder is unagglomerated and has a Scott density of less than about 12 g/in³.

U.S. Patent Application No. 10/770,895
Amendment dated April 24, 2006
Reply to Office Action of November 22, 2005

Claim 31 (Original): A capacitor anode comprising the niobium powder of claim 28.

Claim 32 (Original): A capacitor anode comprising the niobium powder of claim 29.

Claim 33 (Original): A capacitor anode comprising the niobium powder of claim 30.

Claim 34-43 (Cancelled)

Claim 44 (Previously presented): The niobium powder of claim 28, wherein said niobium powder is flaked.

Claim 45 (Previously presented): The niobium powder of claim 30, wherein said niobium powder is flaked.

Claim 46 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has a BET surface area of from about 1.0 m²/g to about 4.5 m²/g.

Claim 47 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has a BET surface area of at least 0.15 m²/g.

Claim 48 (Previously presented): The niobium powder of claim 28, wherein said niobium powder further comprises oxygen, phosphorous, or both.

Claim 49 (Previously presented): The niobium powder of claim 28, wherein said niobium powder is agglomerated.

Claim 50 (Canceled)

Claim 51 (Canceled)

Claim 52 (Currently amended): The niobium powder of claim 28 30, wherein said niobium powder has a flow of greater than 80 mg/s.

Claim 53 (Currently amended): The niobium powder of claim 28, wherein ~~after milling~~, the niobium powder has a flow of from about 80 mg/s to about 500 mg/s.

U.S. Patent Application No. 10/770,895
Amendment dated April 24, 2006
Reply to Office Action of November 22, 2005

Claim 54 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has a BET surface area of from about $1 \text{ m}^2/\text{g}$ to about $10.0 \text{ m}^2/\text{g}$.

Claim 55 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has a shape which is flake, angular, nodular, or mixtures thereof.

Claim 56 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has a shape that is nodular.

Claim 57 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has a BET surface area of from about $6 \text{ m}^2/\text{g}$ to about $15 \text{ m}^2/\text{g}$.

Claim 58 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has an oxygen content of about 2,000 ppm or below.

Claim 59 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has an oxygen content of from about 2,000 ppm to about 60,000 ppm.

Claim 60 (Previously presented): The niobium powder of claim 28, wherein said niobium powder further comprises phosphorous in the amount of less than about 400 ppm.

Claim 61 (Previously presented): The niobium powder of claim 28, wherein said niobium powder comprises nitrogen.

Claim 62 (Previously presented): The niobium powder of claim 28, wherein said niobium powder comprises nitrogen in an amount of at least 300 ppm.

Claim 63 (Previously presented): The capacitor anode of claim 31, wherein said anode has a capacitance of at least about 62,000 CV/g.

Claim 64 (Previously presented): The capacitor anode of claim 31, wherein said anode has a capacitance of at least about 70,000 CV/g.

U.S. Patent Application No. 10/770,895
Amendment dated April 24, 2006
Reply to Office Action of November 22, 2005

Claim 65 (Previously presented): The capacitor anode of claim 31, wherein said anode has a capacitance of from about 65,000 CV/g to about 250,000 CV/g.

Claim 66 (Previously presented): The capacitor anode of claim 31, wherein said anode is formed at a voltage of less than about 60 volts.

Claim 67 (Previously presented): The capacitor anode of claim 31, wherein said anode has a working voltage of from about 4 to about 16 volts.

Claim 68 (Previously presented): The capacitor anode of claim 31, wherein said anode has a DC Leakage of less than about 5.0 na/CV.

Claim 69 (Previously presented): The capacitor anode of claim 31, wherein said anode has a formation voltage of from about 50 to about 80 volts.

Claim 70 (Previously presented): The capacitor anode of claim 31, wherein said anode has a working voltage of from about 10 to about 20 volts.

Claim 71 (Previously presented): A hydrided niobium powder having a carbon content of from about 40 ppm to about 200 ppm and a iron, nickel, and chromium content of from about 5 ppm to about 200 ppm.

Claim 72 (Previously presented): The hydrided niobium powder of claim 71, wherein said carbon amount is from about 50 to about 150 ppm.

Claim 73 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has a BET surface area of from about 1.0 m²/g to about 4.5 m²/g.

Claim 74 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has a BET surface area of at least 0.15 m²/g.

Claim 75 (Previously presented): The hydrided niobium powder of claim 71, wherein said

U.S. Patent Application No. 10/770,895
Amendment dated April 24, 2006
Reply to Office Action of November 22, 2005

niobium powder further comprises oxygen, phosphorous, or both.

Claim 76 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder is agglomerated.

Claim 77 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder is agglomerated and has a Scott density of less than about 35 g/in³.

Claim 78 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder is unagglomerated and has a Scott density of less than about 12 g/in³.

Claim 79 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has a flow of greater than 80 mg/s.

Claim 80 (Currently amended): The hydrided niobium powder of claim 71, wherein ~~after~~ ~~milling~~, the niobium powder has a flow of from about 80 mg/s to about 500 mg/s.

Claim 81 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has a BET surface area of from about 1 m²/g to about 10.0 m²/g.

Claim 82 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has a shape which is flake, angular, nodular, or mixtures thereof.

Claim 83 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has a shape that is nodular.

Claim 84 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has a BET surface area of from about 6 m²/g to about 15 m²/g.

Claim 85 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has an oxygen content of about 2,000 ppm or below.

Claim 86 (Previously presented): The hydrided niobium powder of claim 71, wherein said

U.S. Patent Application No. 10/770,895
Amendment dated April 24, 2006
Reply to Office Action of November 22, 2005

niobium powder has an oxygen content of from about 2,000 ppm to about 60,000 ppm.

Claim 87 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder further comprises phosphorous in the amount of less than about 400 ppm.

Claim 88 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder comprises nitrogen.

Claim 89 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder comprises nitrogen in an amount of at least 300 ppm.

Claim 90 (New): The niobium powder of claim 30, wherein said niobium powder has an oxygen content of about 2,000 ppm or below.

Claim 91 (New): The niobium powder of claim 30, wherein said niobium powder has an oxygen content of from about 2,000 ppm to about 60,000 ppm.